STUDY OF UTERINE SIZE, ENDOMETRIUM, FERTILITY AND PATHOLOGICAL PICTURE IN HYSTERECTOMY DONE FOR DYSFUNCTIONAL UTERINE BLEEDING

THESIS

FOR

MASTER OF SURGERY

(GYNAECOLOGY AND OBSTETRICS)

BUNDELKHAND UNIVERSITY
JHANSI (U. P.)

1996

ALPANA AGARWAL

C E R T I F I C A T E

This is to certify that the work entitled "STUDY OF UTERINE SIZE, ENDOMETRIUM, FERTILITY AND PATHOLOGICAL PICTURE IN HYSTERECTOMY DONE FOR DYSFUNCTIONAL UTERINE BLEEDING", which is being submitted as a thesis for M.S.(Gynaecology and Obstetrics) by Dr. ALPANA AGARWAL has been carried-out in the Department of Gynaecology, and Pathology, M.L.B. Medical College, Jhansi.

She has put in necessary stay in the Department as per University regulations.

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Alpana Agarwal

Dated : (ALPANA AGARWAL)

C O N T E N T S

INTRODUCTION

INTRODUCTION

Uterine bleeding in the absence of any clinical pelvic finding or histopathology continues to be one of the most frequently perplexing gynaecological complaint.

Menstrual dysfunction is the cause of discomfort, inconvenience and disruption of a healthy life style which affects many millions of women in both the developed and developing countires. The size of problem is expressed in the number of women who seek medical advice about menstrual dysfunctions.

It is estimated that more than 20 million Indian women could be suffering from abnormal uterine bleeding (Shekhar Purandare, Lalitha Jhalam,June, 1993). In a study of 357 cases of dysfunctional uterine bleeding 23% were below 20 years, 43.4% were 20-40 years and 33.6% were over 40 years (Chhabra, 1992).

Dysfunctional uterine bleeding may occur at any age between puberty and the well established menopause. It is said to occur most frequently at the extremes of reproductive life that is during adolescence and pre-menopausally when menstruation is either being established or is declining.

If on clinical bimanual examination, the uterus and appandages are found to be normal, the term dysfunctional uterine bleeding is used. This term should be reserved for those cases in whom not only the pelvic examination normal but in whom there is no other demonstrable extragenital cause for the bleeding.

The cause of dysfunctional uterine bleeding is often attributed to harmonal imbalance in hypothalamo pitutary ovarian axis. The bleeding might be from an ovulatory or an anovulatory cycle and there is a basic difference in the pathophysiology of these two types of cycles.

Abnormal bleeding associated with an ovulatory cycles is ordinarily organic in etiology although several types particularly polymenorrhoea, irregular endometrial shedding and persistant corpus leuteum may be of endocrinal etiology. Other lesions may be complications of pregnancy or one related to contraceptive measures, intra-pelvic pathology as pelvic inflammatory disease, submucous fibroid, endometriosis and cervical & endometrial polyps.

Abovulatory bleeding is primarily a disease of menarcheal and perimenopausal patient. The various forms of bleeding can be menorrhagia, polymenorrhoea, polymenorrhagia and metrorrhagia.

During investigations a general search is made to exclude systemic disease. One of the commonest modes of treatment of this complaint is dialatation and curettage for its diagnostic and therapeutic value. Endometrial biopsy must be done for examination to eliminate organic disease.

Hormonal treatment aims at correcting endocrinal balance and produce a favourable endocrinal mileu in the reproductive age group. Medical treatment is often ineffective because of side effects and lack of proper follow-up.

As the yearly clinical and cytological screening is poor in our country due to illiteracy, poverty and lack of proper follow-up, hysterectomy is preferred treatment of choice in those women who have completed their child bearing and are over 35 years of age.

In older women in perimenopausal or postmenopausal group, hysterectomy could be considered in all cases of persistent and recurrent bleeding. About 25 - 30% women go for hysterectomy who are diagnosed as dysfunction uterine bleeding (Chhabra, 1992).

Conservative surgical therapy in patients refractory to medical treatment is available at present time. Selective endometrial abalation at the present time offers hope of less radical surgery (Russel, 1990). Till such times as

hysteroscopy, transvaginal sonography and endometrial abalation are not available to all patients with dysfunctional uterine bleeding, hysterectomy will continue to play an important role in the management.

It is therefore considered desirable to study patients of dysfunctional uterine bleeding admitted in the Department of Obstetrics & Gynaecology, M.L.B. Medical College, Jhansi, for hysterectomy as definite treatment with aims and objectives of -

1. To study cases in perimenopausal and postmenopausal age groups who underwent hysterectomy for dysfunctional uterine bleeding,
2. To collect data regarding age, parity, type and duration of dysfunctional uterine bleeding and associated symptoms,
3. To measure uterine size before hysterectomy,
4. To take endometrial biopsy,
5. To study the gross and histopathology of specimen after hysterectomy.

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REVIEW OF LITERATURE

REVIEW OF LITERATURE

ANTIQUITY

One of the earliest references to heavy menstruation is found in the ancient Hindu works on obstetrics and gynaecology. The early Hindu sacred books (the four vedas of Brahma) date from about 1400 B.C. A later group of works include the Ayurveda. In the first century A.D., Charaka, compiled the Charaka Ayurveda of 120 chapters. Another work of importance was that of Sushruta, a disciple of Charaka who is credited with the authorship of Sushruta Samhita. Twenty-four diseases of the female reproductive system are described. Included among them is prodokoh, the term used for excessive menstrual blood loss.

The problem of excessive menstrual blood loss was also addressed by the ancient Greeks and Romans. In his Aphorisms, Hippocrates of Cos (c. 460-377 BC) wrote that treatment consisted of cupping, applied to the breasts. Soranus of Ephesus (AD 98 - 138) theorized that the debilitated uterus gave rise to menstrual periods which were very profuse, painful, and irregular.

Paulus of Aegina (AD 625) was a learned physician, surgeon and obstetrician who compiled medical material from

the works of Galen, Aetius and others. Years later, Avicenna (AD 980 - 1037) treated excess menstruation in the same way as Oribasius and Soranus.

During the Victorian era, the treatments for menorrhagia included oophorectomy, or the irrigation of the uterine cavity with carbolic acid, silver nitrate, or nitric acid (Atthill, 1883).

EARLY STUDIES

Abnormalities of the endometrium were described by Recamier (1850) and by Olshausen (1875), by West and Duncan (1879) and also by Cullen (1900, 1908) all of whom highlighted the histological characteristics of endometrial hyperplasia. Schroder (1914) confirmed that the condition was associated with disturbed ovarian function. However, it was not until the 1940s that abnormal menstrual function was investigated in a systematic fashion.

Four separate conditions were discovered which were thought to be related to dysfunctional uterine bleeding. The first of these, the anovulatory bleeding cycle, was described in the rhesus monkey by Heape (1897). In this condition heavy bleeding occurred despite anovulation. The first instance of this condition in the human was described by Emil Novak (1927; 1933). A second abnormality (later) termed luteal phase defect, in which the development

of the secretory phase was impaired, was described by Jones (1949). A third condition termed irregular shedding of the endometrium, in which the corpus luteum regressed asynchronously was first recognized in this century by Driessen (1914). The final disorder, that of endometrial hyperplasia was thought to occur much more commonly. Although originally described by Recamier (1850) it was mainly in this century that the condition was thoroughly investigated.

However, Robert Schroder is usually credited with the definitive early work on endometrial hyperplasia as a clinical entity.

TREATMENT

Medical treatment

Ergometrine :

This uterine contracting agent was widely used but did not reduce menstrual blood loss in menorrhagia (Nilsson and Rybo, 1971).

Antiprostaglandin agents :

These were used to treat excess menstrual blood loss from the mid-1970s. Anderson et al (1976) administered mefenamic acid and flufenamic acid. The advantage of anti-prostaglandins was the need for their administration only

during the menstrual flow. Petrusson et al (1977) administered acetylsalicylic acid or paracetamol. Rybo et al (1981) demonstrated that naproxen reduced excess menstrual blood loss. A study on mefenamic acid therapy was carried out by Fraser et al (1981).

Danazol :

Chimbira et al (1979; 1980) studied the effects of danazol on coagulation mechanisms and haematological indices in menorrhagia.

Hormones :

Albright (1938) described the action of progesterone therapy. Karnaky (1939) devised a method to arrest menstrual flooding by the administration of 10-25 mg of stilboestrol by mouth. Cyclical oestrogen and progesterone therapy was advocated by Hamblen et al (1941).

Scowen (1944) advocated the administration of progesterone until it appeared in the urine, while Hamblen and Davis (1945) advised the use of equine gonadotropin. A combination of testosterone propionate and progesterone by injection was advocated by Greenblatt and Kupperman (1946). Foss (1960) reported the beneficial effects of progestogens in various dosage regimens. Progestasert, a progesterone releasing intrauterine device, was found to be effective in the treatment of intra-uterine device-induced menorrhagia (Newton et al, 1976).

The combined oral contraceptive pill was found to be as effective as the antifibrinolytic Cyklokapron (Nilsson and Rybo, 1971).

Fibrinolytic inhibitors :

Antifibrinolytic agents were found to exert their action by reduction of the enhanced fibrinolytic activity found in association with excessive menstrual blood loss. Nilsson and Rybo (1971) reported their treatment of menorrhagia with tranexamic acid. Vermylen et al (1968) and Callender et al (1970) had demonstrated an overall reduction in menstrual blood loss of 35-38%.

Westrom and Bengtsson (1970) investigated the use of Cyklokapron. Bonnar (1975) compared aminocapronic acid and ethamsylate in a randomized, double-blind, cross-over study. However, Harrison and Campbell (1976) reported to the Lancet their double-blind study of ethamsylate in the treatment of primary and intra-uterine device-induced menorrhagia.

Luteinizing hormone releasing agonists :

Shaw and Fraser (1984) reported dramatically reduced excess menstrual blood loss when intranasal luteinizing hormone releasing hormone agonists, such as buserelin were administered.

Surgical treatment

Dilatation and curettage :

The procedure was found to have both diagnostic and therapeutic potential. It was generally agreed that during episodes of excess menstrual blood loss, uterine curettage had a useful therapeutic effect and Israel (1967) stated that 'it is not only the best therapeutic measure to arrest bleeding but it is also the most informative diagnostically'. However, objective measurements indicated reduced blood loss in only the first cycle following curettage (Nilsson and Rybo, 1971; Haynes et al, 1977). The usual indication for the procedure was to exclude the presence of polyps or malignancy. Polyps were found to occur in about 2% of women (Mackenzie and Bibby, 1978), while endometrial carcinoma was found in 0.7 - 6.5% of cases (Carey, 1968; Mackenzie and Bibby, 1978).

Endometrial currating is central in evaluating many conditions including infertility, menstrual disorders, post-menopausal bleeding, abnormal cytology suggesting endometrial origin and follow-up of hormonal therapy. Often the diagnosis of dysfunctional bleeding can be established only by curettage. Although not every patient needs to be curretted, if the bleeding is profuse or if the diagnosis is in doubt, currettage is essential to the study. There is no satisfactory explanation why curettage should of

itself be beneficial. Yet it is recognised that about 50 percent of patients will be cured by this procedure. One hypothesis is that the act of dilating the cervix and scraping the uterus affects the hypothalamic pitutary axis and in some way corrects the abnormal cycle. Another explanation postulates that the growth of the endometrium following curettage alters the oestrogen progesterone balance. This would imply a specific influence of the endometrium on ovarian activity. For years efforts have been made to demonstrate that a relationship exists but no one has succeeded in doing so. Whatever the cause however, curettage frequently effects a cure.

The endometrial biopsy provides important information. If it is possible to time the curettage or biopsy, this is best done just before the expected onset of menstruation. At this time, if ovulation has occurred, one would anticipate a progestational endometrium. If proliferative endometrium is obtained, ovulation and corpus luteum development has not occurred. Unfortunately, however, particularly if bleeding is more or less continuous, such timing may be difficult. In such instances, a single curettage is less informative than scraping at 2 weeks intervals. The latter may be done by endometrial biopsy as an office procedure (John I. Brewer, Edwin J. Decosta). The endometrial biopsy may help to distinguish anovulatory

from ovulatory bleeding and excluded hyperplastic condition or carcinoma.

Endometrial sampling :

Indicated	Not necessarily indicated
Infertility evaluation	Prior to benign hysterectomy
Dysfunctional uterine bleeding.	With cervical conization
Postmenopausal bleeding	Contraindicated
Abnormal cytology*	Pregnancy
Follow-up of therapy.	Acute PID
Hormonal replacement therapy.	Coagulopathies
	Cervical stenosis.
Adjuvant hormonal therapy (Tamoxifen citrate)	

* including normal endometrial cells on Pap. smears of postmenopausal women.

Endometrial ablation :

Writing in the American Journal of Obstetrics and Gynaecology. Michael Baggish and Pavlos Baltoyannis (1988) of Siracuse, New York, commented that 'since the 1800s attempts have been made to control uterine bleeding by means

other than hysterectomy. Alternative methods have included chemicals, ionizing radiation, electrocautery and cryosurgery. Other treatments included the use of superheated steam, quinacrine or urea injection, and radium packing.

The technique of endometrial ablation is based on those previous attempts to control menorrhagia and also on the observations by Asherman (1948; 1950) who described amenorrhoea traumatica. In his second report he noted partial or complete obliteration of the uterine cavity due to traumatic adhesions. Carmichael (1970) again noted the aetiological factors of endometritis, and of endometrial curettage within 4 weeks of miscarriage or term delivery.

Endometrial ablation was offered as an alternative to hysterectomy in some cases. The technique aimed to ablate permanently all layers of the endometrium, and allow the uterine cavity to become lined with fibrous tissue. Cahan and Brockunier (1967) reported an early experience of cryosurgery to the uterine cavity. Droegemueller et al (1970; 1971) also experimented with the technique. Although cryocautery held early promise, it was an unreliable method of menstrual suppression.

Endometrial electrocautery with resection via a resectoscope was first reported by Neuwirth (1978) who later reviewed the subject (Neuwirth, 1983). In the same year

DeCherney and Polan (1983) described emergency endometrial electrocoagulation in 11 women. The electrocautery technique was introduced in France by Hamou (1985) and in the U.K. by Magos et al (1989). The term Trans-Cervical Resection of the Endometrium (TCRE) was coined by an Oxford urologist called Smith (Magos, 1991).

Laser ablation of the endometrium was pioneered by Goldrath et al (1981) who reported the use of hysteroscopic Nd-YAG (neodynium: yttrium-aluminium-garnet) laser photo-vaporization in a series of 22 cases. This was followed by complete amenorrhoea or light menstruation in 21 of the cases. A further treatment modality was that of radio-frequency-induced thermal endometrial ablation which was introduced by Phipps et al (1990). The radio-frequency-electromagnetic energy was delivered via a probe placed within the uterine cavity.

Hysterectomy :

Corscaden et al (1946) indicated that they preferred total hysterectomy to the use of X-rays or radium which were commonly used to treat excess menstrual blood loss.

Hysterectomy was regarded as the definitive treatment for menorrhagia, and approximately one-third of such operations were performed for menstrual disorders

(DHSS, 1985). When assessed at histological examination however, only half of the removed uteri were found to contain a pathological condition (Grant and Hussein, 1984). Studd (1989) noted in a review article that 'the recent literature concerning menorrhagia deals solely with the aetiology and medical treatment'.

Dicker et al (1982 a, b) estimated that there were almost half a million (non-radical) hysterectomies per year carried out in the USA in the 1970s, with an operative morbidity for abdominal hysterectomy as high as 42.8%. Wingo et al (1985) found that there was a low mortality rate for hysterectomy of 6 per 10,000 for benign indications.

CHRONOLOGY

Antiquity :

The ancient Hindus referred to 'prodokah', their term for excessive menstrual blood loss.

c. 400 B.C.	Hippocrates advocated cupping.
1st C. AD	Pliny offered treatment.
2nd C. AD	Soranus of Ephesus advised limb ligatures and impregnated pessaries.
c. AD 600	Paulus of Aegina offered treatment.

c. AD 1000 Avicenna copied the treatments of Oribasius and Soranus.

References for above: McKay (1901); Graham (1950).

Early studies :

1800 Uterine irrigation with various acids was advocated (Athill, 1883).

1850 Recamier documented abnormalities of the endometrium. A similar condition was also described by Olshausen, West and Duncan, and Cullen at later dates.

1897 Heape described the anovulatory bleeding cycle.

1914 Driessen described irregular shedding of the endometrium.

1914/15 Schroder determined that endometrial hyperplasia was a distinct clinical entity.

1924 Novak and Martzloff introduced the term 'Swiss cheese pattern'.

1949 Jones and other investigators described luteal phase defects.

Definition

1966 Hallberg et al defined menorrhagia as menstrual blood loss of more than 80 ml per menstruation.

Aetiology

1927 Gardiner-Hill and Forest-Smith implicated thyroid disorders.

1945 Frank Associated 'nervous' causes.

Various reproductive pathology was implicated. Tubal ligation and intra-uterine contraceptive devices were also involved.

Treatment :

Medical

1938 Albright described progesterone therapy. Soon after various combinations of oestrogen, progesterone and testosterone were used.

1968 Vermylen et al studied the use of fibrinolytic inhibitors.

1976 Anderson et al used antiprostaglandin agents.

1979 Chimbira et al introduced danazol treatment.

1984 Shaw and Fraster administered luteinizing hormone releasing hormone agonists.

Surgical

1940 Investigation of menorrhagia by curettage sometimes improved the condition.

1946 Corscaden et al and others popularized hysterectomy.

1967 - Israel stated that curettage was the best therapeutic measure to arrest excess menstrual blood loss.

- Cahan and Brockunier applied cryosurgery to the endometrium.

1971 Nilsson and Rybo showed that excess blood loss was reduced for the first cycle following curettage.

1981 Goldrath et al from USA described photo-vaporization of the endometrium by means of (Nd : YAG) laser.

1983 - Decherney & Polan described emergency resectoscopic electrocoagulation of the endometrium.

- Neuwirth and DeCherney suggested partial endometrial resection as an alternative to hysterectomy.

1989 - Vancaillie
1990 - Townsend et al } described endometrial 'Roller ball' electrocoagulation.

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MATERIAL AND METHODS

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The present study was conducted in the Department of Obstetrics and Gynaecology and Postgraduate Department of Pathology, Maharani Laxmi Bai Medical College and Hospital, Jhansi. This study was performed to correlate size of uterus, fertility, endometrial biopsy and histopathological finding in hysterectomy specimen with the clinical diagnosis of dysfunctional uterine bleeding.

This work is a retrospective analysis of patients who were in their perimenopausal and postmenopausal age groups i.e. after 35 years of age and were admitted in the Department of Obstetrics & Gynaecology, to undergo hysterectomy for the clinical diagnosis of dysfunctional uterine bleeding.

Selection of cases -

Cases were selected from Gynaecological inpatient department who were admitted to undergo hysterectomy for clinical diagnosis of dysfunctional uterine bleeding. All patients received treatment in form of hormones, dialatation and curettage or both prior to hysterectomy. Failure of these modalities increased the acceptance of hysterectomy as definitive treatment.

HISTORY -

The history is of utmost importance in establishing the etiology of abnormal bleeding. The hallmark of the excellent history is one that will determine whether the bleeding is anatomical or organic in nature, whether it is superimposed on an ovulatory cycle or associated with anovulation.

Clinical History -

Detailed history of each patient was taken regarding -

- Age : Patient who were in their perimenopausal and postmenopausal age group were taken i.e. 7//35 years.
- Type of menstrual irregularity :
    - Menorrhagia
    - Polymenorrhoea
    - Polymenorrhagia
    - Metrorrhagia
    - Irregular bleeding per vaginum
    - Short period of amenorrhoea followed by bleeding per vaginum.
- Duration of menstrual irregularity.

Treatment History -

Patients were asked about the treatment taken to control menstrual irregularity in form of :

Medical Tt. - Hormones etc.

Surgical Tt. - Previous D & C etc.

Menstrual History -

The menstrual pattern throughout life until the present illness must be documented, as many factors may induce an isolated instance of anovulatory bleeding. A history of any predisposing associated causes - psychogenic or emotional, is important as stress or anxiety may induce ovulatory failure.

Menstrual History was taken in detail until present complaint -

- Length of cycle,
- Duration of cycle,
- Amount of flow,
- Pain during menstruation,
- Last menstrual period.

Family History -

- A family history of bleeding problem may suggest an inherited blood dyscrasia.

Obstetric History -

- Particular attention must be paid to the obstetric history : Pregnancy exposure, the number and outcome of pregnancies, ages of children,

  . Parity,
  . Abortion,
  . Last child birth,
  . Any period of infertility during reproductive period.

Contraception -

- Oral contraceptives. The history must include the details of medication. Patient may have taken oral contraceptives, oestrogen or progestational agents for various indications. Patients on oral contraceptives may have breakthrough bleeding or bleeding because of discontinuing the medication at unusual times in cycle.

  . Ligation,
  . I.U.C.D.

Nutritional History -

Nutritional disturbances, including rapid weight loss as well as obesity and rapid weight gain are commonly associated with abnormal bleeding pattern.

Past History -

Inquiry should be made of chronic illness including -

- Essential hypertension
- Congestive heart failure
- Chronic nephritis
- Chronic liver disease
- Diabetes
- Tuberculosis
- Thyroid disease
- Blood Dyscrasias.

Chronic diseases or the drugs used in their therapy may be associated with anovulation or with abnormal uterine bleeding in the presence of ovulation.

A history of lower abdominal discomfort, radiating pain or distension may provide a clue to benign or malignant abdominal tumours.

General Examination -

A complete general physical examination performed with etiological factors in mind. The appearance of patient whether emaciated or obese should be noted. This includes the general built-up of patient, Pulse, Blood Pressure, pallor, oedema, sign & symptoms of thyroid disorders or bleeding disorder etc.

Systemic Examination -

A thorough systemic examination was done to exclude any systemic disease because some of them may be directly responsible for the changes in menstrual pattern. Evidences of chronic illnesses or endocrinopathies, signs of blood dyscrasias, such as ecchymoses or petechiae and condition of the skin must be checked.

PER ABDOMINAL EXAMINATION -

The abdominal examination should document abnormalities of the liuer spleen or kidneys and the presence or absence of intra-abdominal or intrapelvic tumours. The diagnosis of cirrhosis of liver or intra-hepatic tumours is especially significant.

PELVIC EXAMINATION -

The pelvic examination identifies vaginal and cervical lesions and confirms that blood is indeed coming through the cervical os. Local reasons for abnormal bleeding, including benign and malignant neoplasms, infections of vagina or cervix, cervical polyps and ulcerated lesions may be identified. Particular attention should be paid to the hormonal status of vagina whether hyperestrogenic or hypoestrogenic.

The careful bimanual examination may reveal myomata uteri, ovarian masses and tumours, ectopic pregnancy,

complications of an intra-uterine pregnancy, foreign bodies, misplaced tampoons or pessaries and partially expelled intra-uterine devices. The rectovaginal examination will exclude pelvic masses in the cul de-sac, detect nodules suggestive of endometriosis in the utero-sacral ligaments or identify rectal polyps or hemorrhoids which may be the cause of bleeding.

Endometrial Biopsy -

Endometrial biopsy was taken in premenstrual phase in patients having abnormal menstrual pattern to study the type of harmonal disturbance.

The patients who were having continuous bleeding per vaginum, curettage was done during same sitting and in those cases who were having irregular pattern it was done on first day of menstrual cycle.

Instruments used -

- Sponge holding forceps,
- Catheter,
- Sims speculum,
- Anterior vaginal wall retractor,
- Volsellum,
- Uterine sound,
- Endometrial biopsy curette.

Preservative - Absolute alcohol or 40% formalin solution.

Stain - Haematoxylin and Eosin.

Anaesthesia - Intravenous sedation with Fortwin and Phenargan.

METHOD -

- Patient was put in lithotomy position.
- Vulva painted & drapped.
- Bladder was catheterised in those cases where it was not already evacuated.
- Bimanual pelvic examination was done to ascertain the position of the uterus and to exclude any pathology of the uterus and adenexa.
- Sims speculum was inserted and the cervix was visualised with the help of anterior vaginal wall retractor.
- The anterior lip of the cervix was caught hold by a Volsellum.
- Uterine sound was passed to know the length of the uterine cavity and to exclude uterine polyp.
- Endometrial biopsy was taken by means of endometrial biopsy curette and tissue obtained was preserved in absolute alcohol or 40% formaline.
- Local antiseptic lotion was applied over cervix.

Preparation of tissue for histopathological examination -

Dehydration of tissue -

- Pieces are cut and subjected to the process of dehydration in the automatic processor. Dehydration is done by putting tissues in increasing concentration of alcohol. The extra amount of water was soaked by bloating paper.

Clearing the tissue -

- After dehydration, tissue is cleared in xylene.

Embedding of tissue -

- The tissues were embedded in paraffin wax which was allowed to set.

Blocking the tissues -

- The tissues were blocked in cubical moulds by placing two metallic angles (L forms).

Section cutting -

. Sections were cut at 5-6 u thickness with the help of rotating microtone.

Staining -

- Tissue is deparaffinased and subjected to the steps of Harris's haematoxylin and eosin staining followed by mounting in DPX.

The slides were examined under high power and endometrium was then phased finally. Clinical and histopathological findings were correlated.

Hysterectomy specimen -

After hysterectomy specimen were fixed in 10% formal dehyde, tissue was examined grossly for -

- Size of uterus,
- Shape of uterus,
- Presence of external mass,
- Uterine cavity,
- Myometrial thickness,
- Presence of whorling, cystic spases,
- Areas of necrosis or haemorrhage,
- Polyp,
- Any foreign body, CuT,
- Endometrium,
- Adenexa if present.

For microscopic examination tissue was subjected to similar steps mentioned above.

PROFORMA OF CASE

1. Case No.
2. Name
3. Age
4. Religion
5. Address
6. MRD No.
7. Ward / Bed
8. Presenting symptoms : Menorrhagia / Polymenorrhoea / Polymenorrhagia / Metrorrhagia / Irregular menses / Period of amenorrhoea followed by BPV.
9. Duration of symptoms :
10. Menstrual History : Length of cycle/ Duration of cycle/ Amount of flow / Pain during menstruation/ Last menstrual period
11. Past history : Diabetes/Hypertension/Tuberculosis.
12. Family history : Diabetes/Hypertension/Tuberculosis.
13. Associated diseases : Thyroid dis./ Bleeding disorder/ Other endocrinal dis.
14. Contraception : Ligation / Oral contraceptive / IUCD / Barrier.
15. Obstetric History : Parity,
    Abortion,
    Last child birth,
    Any period of infertility.
16. Treatment history : - Medical : Hormones /Ayurvedic preparations
    - Surgical : D & C etc.

17. Examination :

General - Pulse
Blood Pressure
Pallor
Icterus
Oedema
Bleeding disorder
Thyroid examination.

Systemic - Heart
Lungs

18. Pcr. abdominal Examination

19. Pcr Speculum Exam

20. Pcr Vaginal Exam

21. Uterine sounding

22. Endometrial biopsy

23. Investigations :

Routine : Hb%, TLC, DLC, ESR
(R) Bl. sugar, Bl. urea

Urine - Albumin
Sugar, Microscopic exam.

Screening chest

ECG.

Special : BT CT, Thyroid function test in patients with sign & symp. of thyroid disorder.

24. Date of hysterectomy :

25. Hysterectomy specimen hystopathology report :

****

OBSERVATIONS

OBSERVATIONS

The present study is a retrospective study conducted in M.L.B. Medical College, Jhansi. This study was carried out in a total of one hundred patients who were admitted in the Department of Obstetrics & Gynaecology, M.L.B. Medical College, Jhansi, to undergo hysterectomy. The patients were selected from Gynaecology inpatient department. Patients presenting with the complaints of abnormal and excessive uterine bleeding in the absence of any clinically detectable pelvic pathology were included in the study. None of these patients had any palpable benign or malignant abnormality detected pre-operatively. In this study we have used the terms abnormal uterine bleeding synonymously with dysfunctional uterine bleeding. Those cases having abnormal menstrual pattern due to gross pelvic pathology like cervical polyp, fibroid polyp, irregular enlargement of uterus were excluded from the study.

Age of menopause varies in different communities, races and families. Menopause is also effected by environmental conditions, general health and psychological status of the women. Age of menopause varies from 45 to

47 years. Present study was conducted in perimenopausal age group. Taking the average age of menopause as 47 years, cases from 35 to 55 years were taken.

TABLE 1

CASE DISTRIBUTION ACCORDING TO AGE.

Age (in years)	No. of cases	Percentage
35 - 40	62	62.0
41 - 45	22	22.0
46 - 50	12	12.0
51 & above	4	4.0
Total	100	100.0

The above table No. 1 shows agewise distribution of 100 cases in the conducted study.

Maximum patients having dysfunctional uterine bleeding were in the age group of 35-40 years i.e. 62%. 22 cases belonged to the age group of 41-45 years i.e. 22%. 12 cases i.e. 12% were there in the age group of 46-50 years and only 4% cases were above 50 years of age.

TABLE 2

CASE DISTRIBUTION ACCORDING TO PARITY.

Parity	No. of cases	Percentage
≤ 2	14	14.0
3 - 4	64	64.0
≥ 5	22	22.0
Total	100	100.0

Parity was studied in all 100 patients. Above table No. 2 shows that most of women had normal fertility with three or more children. 64% of patients were in group who had three or four children, 14% patients were in group with one or two children and 22% patients had five or more children. None had prolonged marriage child birth interval or long periods of infertility between two child births.

TABLE 3

DISTRIBUTION OF AGE & PARITY.

Age (in yrs.)	PARITY			Total
	≤ 2	3-4	≥ 5	
35 - 40	10 (16.1%)	46 (74.1%)	6 (9.7%)	62
41 - 45	3 (13.6%)	14 (63.6%)	5 (22.6%)	22
46 - 50	1 (8.3%)	4 (33.3%)	7 (58.3%)	12
≥ 50	0	0	4 (100.0%)	4
Total	14	64	22	100

Table 3 shows distribution of age and parity of patients together. Most of the patients had more than or equal to three or four children and were in the age group of 35-40 years. 62 patients were in age group of 35-40 years, out of which 74.1% had 3-4 children, 16.1% had one or two children and 9.7% had equal to or more than five children. 22 patients were in age group of 41-45 years, out of which 63.6% had 3-4 children, 22.6% had five or more children, 13.6% had one or two children. 12 patients were in age group of 46-50 years. 58.3% patients had five or more than five children, 33.3% had 3-4 children and only 8.3% had one to two children. Minimum number of patients were above 50 years of age i.e. 4% and all had five or more children.

TABLE 4

DISTRIBUTION OF CASES ACCORDING TO MENSTRUAL PATTERN.

Menstrual pattern	No. of cases	Percentage
1. Menorrhagia	38	38.0
2. Polymenorrhoea	27	27.0
3. Polymenorrhagia	7	7.0
4. Metrorrhagia	6	6.0
5. Irregular cycles	21	21.0
6. Short period of amenorrhoea followed by bleeding per vaginum	1	1.0
Total	100	100.0

Table No. 4 shows that maximum number of patients presented with complaints of menorrhagia i.e. 38%. Only one patient presented with history of short period of amenorrhoea, followed by bleeding per vaginum. 27 cases i.e. 27% presented with symptoms of polymenorrhoea, while 21 patients i.e. 21% had complaints of irregular menses. 7 cases i.e. 7% presented with symptoms of polymenorrhagia and only 6 cases i.e. 6% presented with complaints of metrorrhagia.

TABLE 5

MENSTRUAL PATTERN IN RELATION TO SIZE OF UTERUS.

Menstrual pattern	SIZE OF UTERUS				Total
	Normal size	6 week	8 week	10 week	
Menorrhagia	25 (65.8%)	12 (31.5%)	1 (2.6%)	0 -	38
Polymenorrhoea	20 (74.1%)	7 (25.9%)	0 -	0 -	27
Polymenorrhagia	2 (28.5%)	5 (71.4%)	0 -	0 -	7
Metrorrhagia	2 (33.3%)	3 (50.0%)	0 -	1 (16.6%)	6
Irregular cycles	14 (66.6%)	4 (19.0%)	2 (9.5%)	1 (4.9%)	21
Short period of amenorrhoea followed by bleeding per vaginum	0 -	1 (100.0%)	0 -	0 -	1
Total	63	32	3	2	100

Table 5 shows size of uterus in relation to various symptomatology of dysfunctional uterine bleeding. Among 38 patients who presented with menorrhagia 65.8% had normal size uterus, 31.5% had 6 week size uterus and 2.6% had 8 week size uterus and none had 10 week size of uterus.

27 patients presented with polymenorrhoea, out of which 74.1% had normal size uterus and 25.9% had 6 week size uterus. None of the patient in this group had uterus more than 6 week size. 21 patients presented with irregular bleeding, out of which 66.6% presented with normal size uterus, 19% presented with 6 week size uterus and 9.5% presented with 8 week size uterus and only 4.9% had 10 week size uterus.

Seven patients presented with polymenorrhagia of which maximum number i.e. 71.4% had enlarged uterus i.e. 6 week size and only 28.5% had normal size uterus. 6 patients presented with metrorrhagia of which half of patients i.e. 50% had 6 week size uterus, 33.3% had normal size uterus and 16.6% had 10 week size uterus. Only one patient presented with short period of amenorrhoea, followed by bleeding per vaginum and she had 6 week size uterus.

It shows that in menorrhagia, polymenorrhoea and irregular cycles, maximum patients had normal sized uterus. While in cases of polymenorrhagia, metrorrhagia and short period of amenorrhoea followed by bleeding per vaginum, maximum patients had enlarged uterus.

TABLE 6

MENSTRUAL PATTERN IN RELATION TO PARITY.

Menstrual pattern	PARITY			Total
	⩽ 2	3 - 4	⩾ 5	
Menorrhagia	5	26	7	38
Polymenorrhoea	5	18	4	27
Polymenorrhagia	0	4	3	7
Metrorrhagia	3	3	0	6
Irregular menses	1	13	7	21
Short period of amenorrhoea followed by bleeding per vaginum	0	0	1	1
Total	14	64	22	100

Table 6 shows relation of menstrual pattern with parity of the patients included in the conducted study. It shows that in all types of menstrual pattern, maximum number of patients lie in a group with parity 3-4. None of the patient had infertility, showing that parity do not affect the menstrual pattern.

TABLE 7

MENSTRUAL PATTERN IN RELATION TO AGE.

Menstrual pattern	AGE IN YEARS				Total
	35-40	41-45	46-50	7/ 51	
Menorrhagia	24 (38.7%)	8 (36.3%)	4 (33.3%)	2 (50.0%)	38
Polymenorrhoea	18 (29.0%)	7 (31.8%)	2 (16.6%)	0 -	27
Polymenorrhagia	4 (9.6%)	2 (9.0%)	0 -	1 (25.0%)	7
Metrorrhagia	4 (9.6%)	1 (4.5%)	1 (8.3%)	0 -	6
Irregular menses	11 (17.7%)	4 (18.1%)	5 (41.6%)	1 (25.0%)	21
Short period of amenorrhoea followed by bleeding per vaginum	1 (1.6%)	0 -	0 -	0 -	1
Total	62	22	12	4	100

Table 7 shows distribution of menstrual pattern in relation to age of patients. It shows that in age group 35 - 40 years, maximum number of patients presented with complaints of menorrhagia i.e. 24 out of 62 i.e. 38.7%.

29% patients presented with polymenorrhoea, 17.7% presented with irregular bleeding, 9.6% presented with each polymenorrhagia and metrorrhagia respectively, and only 1.6% presented with complaint of short period of amenorrhoea, followed by bleeding per vaginum. 22 patients were in age group of 41-45 years, out of which maximum number i.e. 36.3% presented with menorrhagia, 31.8% presented with polymenorrhoea, 18.1% presented with irregular bleeding, 9% presented with polymenorrhagia and 4.5% presented with metrorrhagia. 12 patients were there in age group of 46-50 years. Maximum number of patients in this age i.e. 41.6% presented with irregular bleeding, 33.3% had menorrhagia, 16.6% had polymenorrhoea and only 8.3% had metrorrhagia. None of the patient in this age group presented with polymenorrhagia and short period of amenorrhoea followed by bleeding per vaginum.

Only 4 patients were in age group more than 50 years. Out of which 50% patients presented with menorrhagia, 25% presented with polymenorrhagia and 25% presented with irregular bleeding.

TABLE 8

SIZE OF UTERUS IN RELATION TO PARITY.

Size of uterus	PARITY			Total
	≤ 2	3 - 4	≥ 5	
Normal size	9	44	10	63
6 week	4	18	10	32
8 week	0	2	1	3
10 week	1	0	1	2
Total	14	64	22	100

Table 8 shows size of uterus in various groups of parity. 14 patients had one to two children, out of which maximum number of patients i.e. 9 patients had normal size uterus, 4 patients had 6 week size uterus and only one patient had 10 week size uterus. Maximum number of patients were in parity group of 3-4 i.e. 64. Out of 64 patients, 44 cases had normal size uterus, 18 patients had 6 week size uterus and only two cases had 8 week size uterus. None had uterus more than 8 week size.

22 patients were there who had five or more children. Out of 22 cases, 10 cases had normal size uterus, 10 cases had 6 week size uterus and one case had 8 week and 10 week size uterus respectively.

TABLE 9

PARITY AND ENDOMETRIAL PATTERN.

Parity	TYPES OF ENDOMETRIUM								Total
	PP	SP	SCM	HI	HO	AH	AE	CE	
≤ 2	5 (35.7%)	6 (42.8%)	1 (7.1%)	0 -	0 -	1 (7.1%)	0 -	1 (7.1%)	14
3 - 4	39 (60.3%)	17 (26.5%)	6 (9.3%)	0 -	0 -	1 (1.5%)	1 (1.5%)	0 -	64
≥ 5	16 (72.7%)	1 (4.5%)	3 (13.6%)	0 -	0 -	1 (4.5%)	1 (4.5%)	0 -	22
Total	60	24	10	0	0	3	2	1	100

PP = Proliferative Endometrium, SP = Secretory phase,
SCH = Swiss Cheese Hyperplasia, HI = Hormonal imbalance,
HO = Hyperoestrogenic phase, AH = Atypical Hyperplasia,
AE = Atrophic Endometrium, CE = Chronic Endometritis.

Table 9 shows pattern of endometrium in relation to parity of study group. It shows that maximum number of patients had proliferative endometrium i.e. 60%. Only 24% of patients had normal secretory endometrium, 10% cases had benign cystic hyperplasia, 3% cases had atypical adenomatous hyperplasia while 2% cases had atrophic endometrium and only 1% has chronic endometritis. None of the patient reflected changes in endometrium because of hyper-oestrogenemia or hormonal imbalance.

When endometrial pattern was studied in relation to parity, 14 patients were in group with one or two children. Out of these 14 patients, 42.8% had secretory endometrium, 35.7% had proliferative endometrium, 7.1% had benign cystic hyperplasia, 7.1% had atypical hyperplasia and 7.1% had chronic endometritis.

64 patients were among parity group 3-4. Out of 64 patients, 60.3% had proliferative phase, 26.5% had secretory phase, 9.3% had benign cystic hyperplasia, 1.5% had atypic endometrium and 1.5% had atrophic endometrium.

22 patients were having five or more children. Out of which, 72.7% had proliferative endometrium, 13.6% had benign cystic hyperplasia, 4.5% had each secretory phase, atypical hyperplasia and atrophic endometrium respectively.

TABLE 10

DISTRIBUTION OF ENDOMETRIAL PATTERN ACCORDING TO AGE OF PATIENT.

Age	Endometrial Pattern								Total
	PP	SP	SCM	HI	HO	AH	AE	CE	
35 - 40	33 (53.2%)	22 (35.5%)	7 (11.2%)	-	-	-	-	-	62
41 - 45	13 (59.1%)	2 (9.1%)	3 (13.6%)	-	-	2 (9.1%)	1 (4.5%)	1 (4.5%)	22
46 - 50	11 (91.6%)	-	-	-	-	-	1 (8.3%)	-	12
51 - 55	3 (75.0%)	-	-	-	-	1 (25.0%)	- (25.0%)	-	4
Total	60	24	10	-	-	3	2	1	100

PP = Proliferative Endometrium, SP = Secretory phase,
SCH = Swiss Cheese Hyperplasia, HI = Hormonal imbalance,
HO = Hyperoestrogenic phase, AH = Atypical Hyperplasia,
AE = Atrophic Endometrium, CE = Chronic Endometritis.

Table 10 shows endometrial pattern according to age of patient. In the age group 35-40 years, out of 62 cases, 53.2% had proliferative endometrium, 35.5% had secretory phase and 11.2% had benign cystic hyperplasia.

In the age group 41-45 years, there were 22 cases, of which maximum number had proliferative endometrium i.e. 59.1%, 13.6% had benign cystic hyperplasia, 9.1% had each secretory and atypical hyperplasia respectively and 4.5% had each atrophic endometrium and chronic endometritis respectively.

There were 12 patients in age group 46-50 years, out of which maximum number of patients i.e. 91.6% had proliferative endometrium and 8.3% had atrophic endometrium.

Four patients had age more than 50 years, out of which 75% had proliferative endometrium and 25% had atypical hyperplasia.

TABLE 11

ORGANIC PATHOGENESIS ENCOUNTERED IN UTERI REMOVED FOR DUB. (N = 100)

Organic Pathogenesis	No.of cases	Percentage	% Among Organic pathology
Adenomyosis	20	20.0	50.0
Leiomyoma	13	13.0	32.5
Endometrial Polyp	3	3.0	7.5
Tuberculosis	0	0	-
Endometrial CA	2	2.0	5.0
Fibroid + Adenomyosis	2	2.0	5.0
Fibroid + Endometrial Polyp	0	0	-
Placental Polyp	0	0	-
Misplaced IUCD	0	0	-
No pathology	60	60.0	

A retrospective study of hundred hysterectomies was carried out for the clinical diagnosis of dysfunctional uterine bleeding without any obvious uterine pathology.

Table 11 shows histopathological analysis of hysterectomy specimen which revealed 40% to have organic pathology and 60% of cases had no organic pathology.

Among the organic pathologies encountered adenomyosis was present in 50% of patients. 32.5% cases out of 40 revealed Leiomyoma. Endometrial polyp was present in 7.5% cases. 5% of cases has each endometrial carcinoma and fibroid & adenomyosis together.

TABLE 12

ORGANIC PATHOLOGY IN CASES OF DUB IN RELATION TO AGE.

Organic Pathology	Age in years				Total
	35-40	41-45	46-50	7/ 50	
Adenomyosis	11 (55.0%)	5 (25.0%)	3 (15.0%)	1 (5.0%)	20
Leiomyoma	8 (61.5%)	2 (15.3%)	3 (23.0%)	0 -	13
Endometrial polyp	2 (66.6%)	1 (33.3%)	0 -	0 -	3
Tubercular	0	0	0	0	-
Endometrial CA	0 -	1 (50.0%)	0 -	1 (50.0%)	2
Leiomyoma + Adenomyosis	0 -	2 (100.0%)	0 -	0 -	2
Leiomyoma + Endometrial polyp	0	0	0	0	-
Placental polyp	0	0	0	0	-
Misplaced IUCD	0	0	0	0	-
No Pathology	43 (71.6%)	10 (16.6%)	5 (8.3%)	2 (3.3%)	60

Table 12 shows distribution of organic pathology found in hysterectomy specimen of dysfunctional uterine bleeding in relation to age of patients. It shows that maximum number of patients had no organic pathology i.e. 60%. Adenomyosis is most common i.e. 20% and it is common in age group of 35-40 years. Second most common is leiomyoma which is also common in age group of 35-40 years.

TABLE 13

COMPARISON OF ENDOMETRIAL PATTERN IN RELATION TO ORGANIC PATHOLOGY AND NO ORGANIC PATHOLOGY.

	PP	SP	SCP	Atr.
No pathology	32 (50.0%)	20 (33.3%)	6 (10.0%)	2 (3.3%)
Fibroid	10 (76.9%)	2 (15.3%)	1 (7.6%)	-
Adenomy	14 (70.0%)	2 (10.0%)	3 (15.0%)	-
Fib. + Adeno	2 (100.0%)	-	-	-
T.B.	-	-	-	-

Table 13 shows comparison of endometrial pattern. In no organic pathology group, 50% patients had proliferative endometrium, 33.3% had secretory endometrium, 10% had benign cystic hyperplasia and only 3.3% had atrophic endometrium.

Abnormal uterine bleeding due to organic disorder was mostly associated with proliferative endometrium though secretory, atrophic and hyperplastic could be seen to a variable degree.

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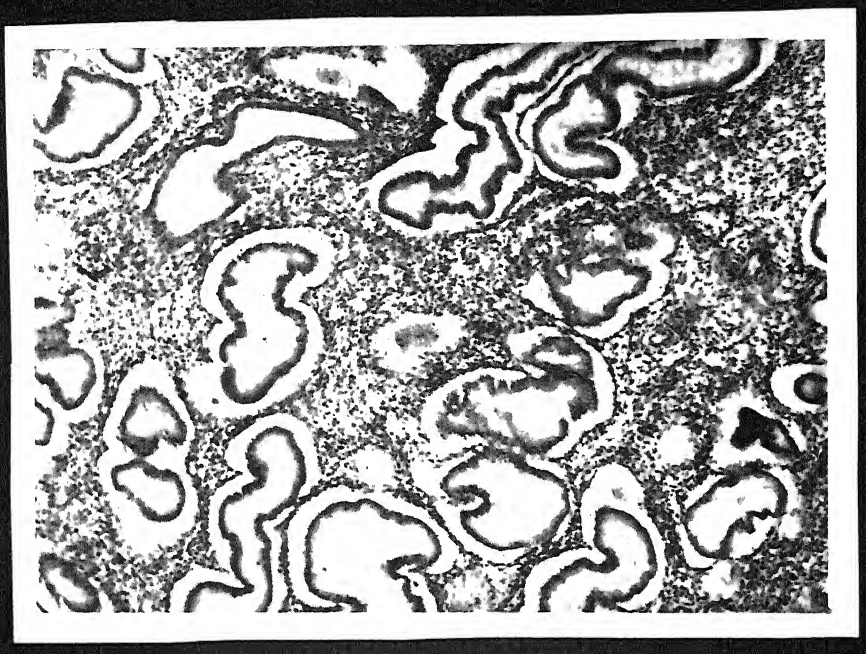
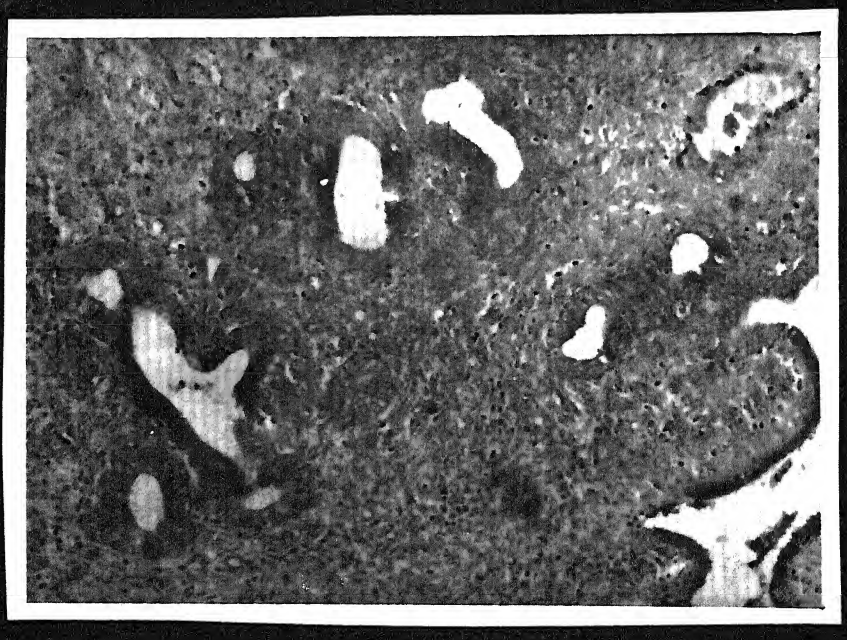
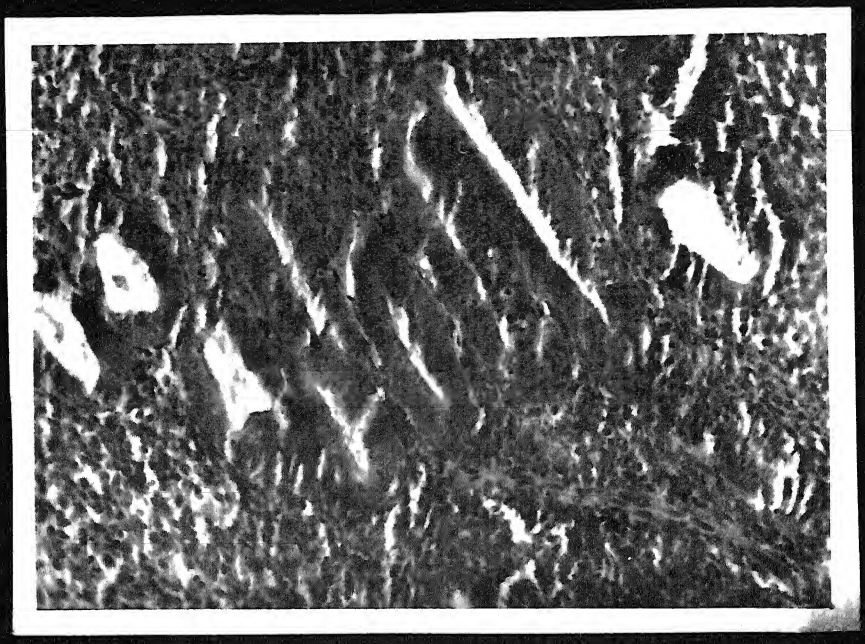


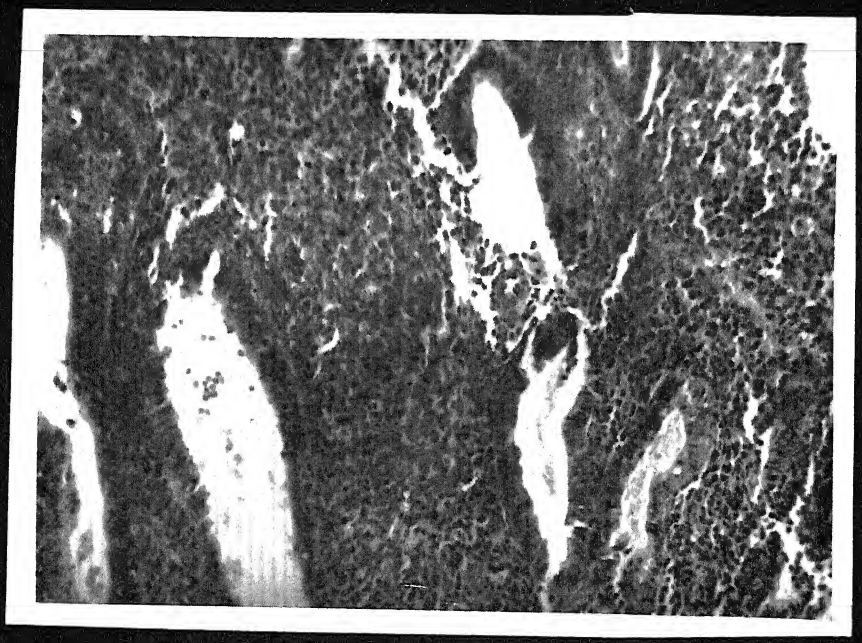
MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING SECRETORY PHASE X 20



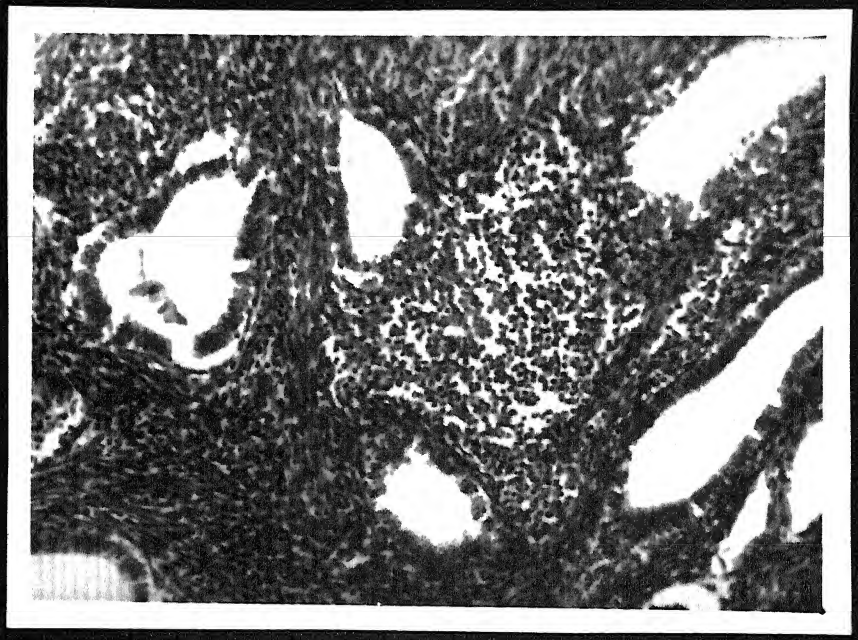
MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING ENDOMETRIAL POLYP X 50



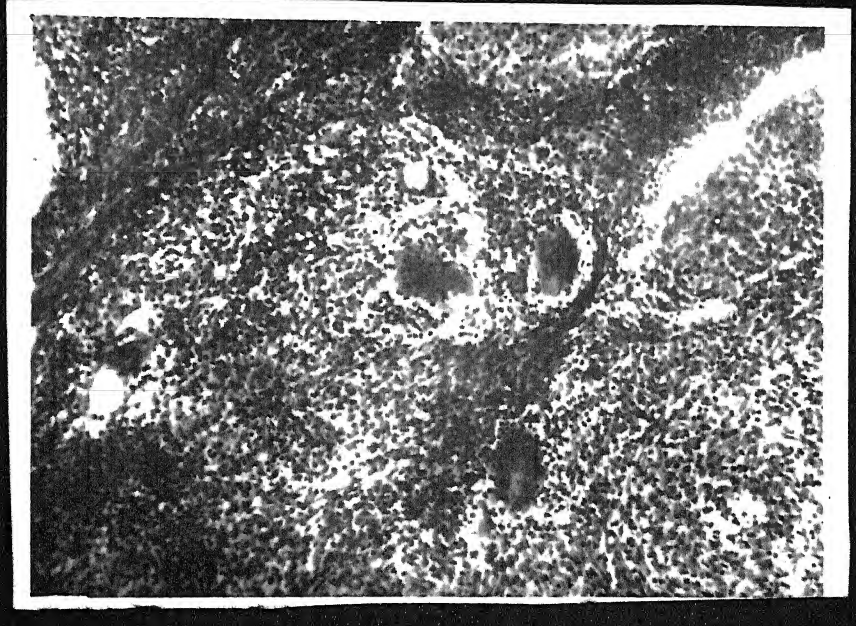
MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING ENDOMETRIAL HYPERPLASIA X 75



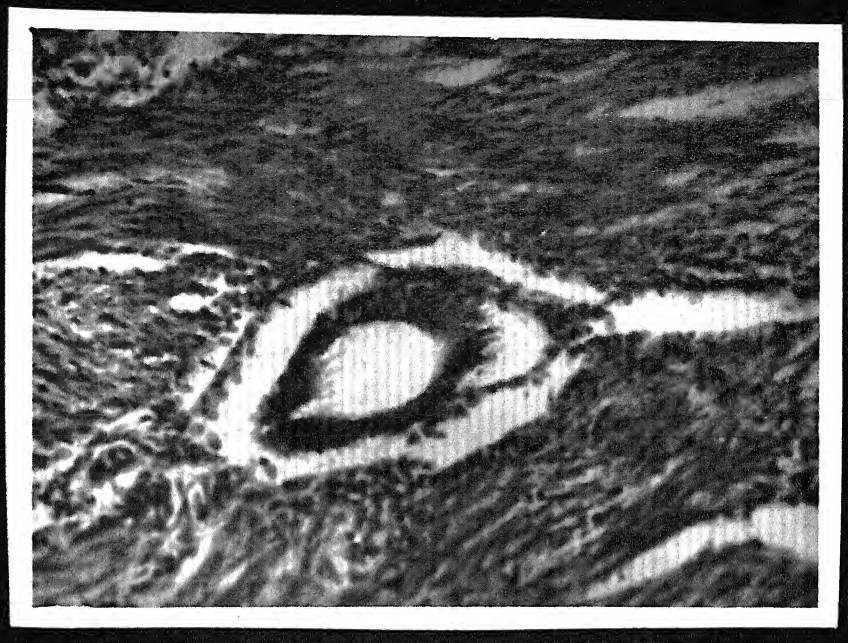
MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING ADENOMATOUS HYPERPLASIA
WITH ATYPICAL CHANGES X 50



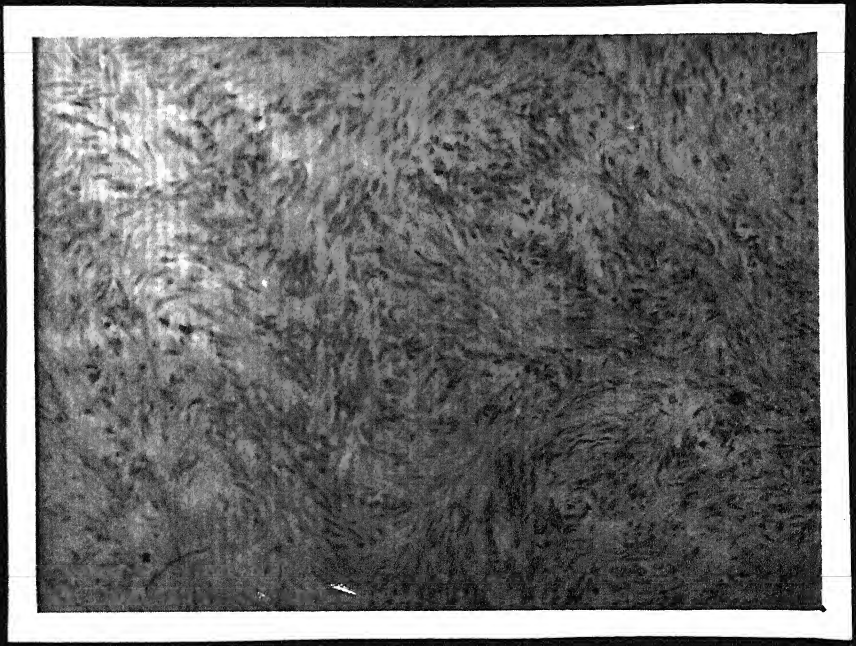
MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING CHRONIC ENDOMETRITIS X 50



MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING TUBERCULAR ENDOMETRIUM X 50



MICROPHOTOGRAPH OF MYOMETRIUM
SHOWING ADENOMYOSIS X 75



MICROPHOTOGRAPH OF MYOMETRIUM
SHOWING LEIOMYOMA X 50

MICROPHOTOGRAPH OF ENDOMETRIUM
SHOWING ATROPHIC ENDOMETRIUM X 75

DISCUSSION

DISCUSSION

Any bleeding from the uterus that differs materially from that of the usual menstrual cycle - in frequency of occurrence or in amount or duration of flow is abnormal. The term applies to both menstrual and non-menstrual disturbances due to any cause (Ralph C. Bensen).

It is estimated that more than 20 million Indian women could be suffering from abnormal uterine bleeding (Shekhar Purandare, Lalitha Jhalam, June 1993). It continues to be one of the most frequently encountered, perplexing gynaecological complaint.

We studied women in Bundelkhand region who were admitted in hospital to undergo hysterectomy for diagnosis of dysfunctional uterine bleeding. Due to illiteracy and poverty, there is lack of proper follow-up in Bundelkhand region. Moreover, conservative surgical therapy in patients refractory to medical treatment in form of endometrial abalation, hysteroscopy and transvaginal sonography is not available in this region. Therefore, hysterectomy is preferred treatment of choice in these women who have completed their child bearing and are above 35 years of age.

In this study we have used the terms abnormal uterine bleeding synonymously with dysfunctional uterine bleeding. None of our patient had any palpable benign or malignant abnormality detected pre-operatively.

This is a retrospective study of patients admitted in Gynaecology inpatient department to undergo hysterectomy as definite treatment for dysfunctional uterine bleeding. There is no definite delimiting time element, but it seems reasonable to consider excessive bleeding at menstruation occurring over a period of 3 months as abnormal. Diagnosis of dysfunctional uterine bleeding was made after proper history, clinical examination and investigations as mentioned in material & methods. Age, parity, size of uterus, menstrual symptoms, endometrial patterns and histopathology of hysterectomy specimen was studied.

Age (Table 1)

In this study we studied one hundred patients in their perimenopausal and post-menopausal period.

Maximum number of patients who were diagnosed as cases of dysfunctional uterine bleeding were in the age group of 35-40 years i.e. 62%. 22% patients were in the age group of 41-45 years, 12% patients were in age group of 46-50 years, while only 4% patients were more than 50 years of age.

Agarwal et al (1985) studied 100 patients of dysfunctional uterine bleeding from 30-70 years of age and maximum patients were in age group of 36-40 years, while 17% were between 46-50 years.

Chakravarty (1986) in a study included patients from 40-60 years of age. Nayar (1983) also studied the patients above 35 years with abnormal bleeding who had not attained menopause. Singh, N. (1988) also studied dysfunctional uterine bleeding and found that in control group 72.5% patients were in age group of 31-45 years. These datas coincides with Abraham's (1966) study in which maximum patients, 3712 (83.1%) were studied in the age group of 30-45 years.

In a study conducted by Chhabra et al (1992) 62.84% cases were in age group of 41-50 years, 31.42% patients were in age group of 31-40 years, 3.7% patients were above 50 years of age and 1.89% patients were of less than 30 years.

In a retrospective study of 518 hysterectomies carried out for the clinical diagnosis of dysfunctional uterine bleeding, by Purandare et al (1993), all patients were above the age of 35 years and more than 65% of patients fell in the age group of 40 to 50 years.

Parity (Table 2)

Parity was studied in all hundred patients of the conducted study. Most of women presenting with menstrual disorders in peri-menopausal & post-menopausal age groups has normal fertility. In present study 64 cases i.e. 64% had three to four children. 14 cases i.e. 14% had one to two children and 22 cases i.e. 22% had more than or equal to five children. None of the patient had infertility.

In a study conducted by Chhabra et al (1992), 46.19% of cases had 3-4 children, 42.85% had more than or equal to five children and only 10.95% had one or two children.

In both above studies none of women had any period of infertility either primary or secondary. In a previous study conducted in Bundelkhand region in dysfunctional uterine bleeding patients by Chauhan, D.(1995) the parity of the patients ranged from 2 to 7. Majority of the patients were 3rd to 4th para. These data coincides with the present study.

Parity & Size of Uterus (Table 9)

In the present study, most of the patients had normal size uterus.

Among patients who had one to two children, 9 patients had normal size uterus, 4 patients had 6 week size

uterus, none had 8 week size of uterus, and only 1 patient had 10 week size uterus. Comparing the results with the study conducted by Chhabra et al (1992). Cases with one to two children, 9 had normal size uterus similar to our study, 5 cases had 6-8 week size and 7 cases had 8-10 week size of uterus. Uterus size more than 10 week was not included in our study.

In present study most of the cases with three to four children had normal size uterus i.e. 44%, while 18% of cases had 6 week size uterus, 2% cases had 8 week size uterus and none of patient had 10 week size uterus. In contrast to above finding with that of Chhabra et al study (1992), 14.28% had normal size uterus, 20% had 6-8 week size uterus and 9.04% had 8-10 week size uterus.

In present study the patients with parity more than equal to 5, 10% patients had normal size uterus, 10% patients had 6 week size uterus and 1% patient had 8 week size uterus and again 1% patient had 10 week size uterus. Here, results were comparable to Chhabra et al study (1992) where 15.23% cases had normal size uterus, 15.71% cases had 6-8 week size uterus and 7.1% cases had 8-10 week size uterus.

Menstrual Pattern (Table 4) :

In present conducted study, maximum number of patients presented with chief complaints of menorrhagia

i.e. 38% as shown in Table No.4. 27% patients presented with complaints of polymenorrhoea while 21% patients presented with irregular menses. 7% patients had polymenorrhagia, 6% patients had metrorrhagia and only 1% patients presented with short period of amenorrhoea followed by bleeding per vaginum.

Results are comparable with the study group A of study conducted by Singh, N.(1988) where maximum number of patients presented with menorrhagia i.e. 50%, 17.39% had polymenorrhoea. In contrast to present study, 15.22% had polymenorrhagia, 6.52% had metrorrhagia, 8.70% had irregular bleeding and only 2.17% had complaints of short period of amenorrhoea followed by bleeding per vaginum.

In study conducted by Agarwal et al (1985) in patients of dysfunctional uterine bleeding, 50% patients had menorrhagia. In Ambiye's study (1980) majority of patients i.e. 86% were having menorrhagia. In previous study conducted in Bundelkhand region by Chauhan, D.(1995) menorrhagia was the commonest (55%) complaints, next being polymenorrhagia (25%) followed by polymenorrhoea (11.67%).

Correlation of Menstrual pattern and Size of uterus (Table 5):

In present study it was concluded that normal size uterus was found in most of the menstrual patterns.

Out of 38 patients presenting with menorrhagia, 65.8% had normal size uterus. Out of 27 patients,

patients presenting with polymenorrhoea 74% had normal size uterus. Out of 21 patients presenting with irregular cycles, 66.6% had normal size uterus.

In contrast to above finding, most of the patients presenting with polymenorrhagia, metrorrhagia and a short period of amenorrhoea had 6 week uterus size.

Correlation of menstrual pattern & parity (Table 6) :

Present study shows that all patients of dysfunctional uterine bleeding presenting with different types of menstrual pattern had normal fertility. Most of the patients in all types of menstrual pattern had three or four children. None of the patient in any type of menstrual pattern was infertile.

Correlation of menstrual pattern and age of patient (Table 7) :

In present study it was found that menorrhagia was the most common complaint in all age groups i.e. 38.7% in 35-40 years of age, 36.3% in 41-45 years of age, 33.3% in 46-50 years of age and 50% in patients more than 50 years of age.

Endometrial pattern (Table 9) :

Present study shows that in 60% cases endometrium was proliferative. In study conducted by Chhabra, S. et al (1992) 65.23% cases had proliferative endometrium, while in a study by Singh, N. (1988), proliferative endometrium

was found in 47.83% cases. In a study by Chauhan, D.(1995) in Bundelkhand region, proliferative endometrium was found in 46.67% cases.

In present study, 24% cases had secretory endometrium. In contrast to this, in a study conducted by Chhabra et al (1992) 9.04% had secretory endometrium. While our results coincided with study conducted by Singh, N. (1988) who found 26.08% secretory endometrium. It is believed that 60% endometrial pattern is normal (Dutta, 1990). In a study by Chauhan, D. (1995) secretory endometrium was seen in 25% patients. In 1000 patients investigated by diagnostic curettage for dysfunctional uterine bleeding in the absence of any pelvic pathology, Sutherland & Bruce reported 54.7% normal endometrium.

Benign cystic hyperplasia was found in 10% cases in our study. While only 4.28% cases had benign cystic hyperplasia in study conducted by Chhabra et al (1992). 13.05% patients had benign cystic hyperplasia in study conducted by Singh, N. (1988). It is believed that 30% had hyperplastic endometrium (Dutta, 1990). Sutherland & Bruce found 26.5% to have hyperplastic endometrium. In a study by Chauhan, D. (1995), 13.33% had hyperplastic endometrium in this region.

None of the patient in present study shows changes reflecting hormonal imbalance and hyperoestrogenemia.

While in study conducted by Chhabra et al (1992) shows that 12.38% patients had hormonal imbalance and 4.38% had changes of hyperoestrogenemia. 3.9% cases shows hormonal imbalance in study by Sutherland and Bruce. In present study 3% patients showed atypical hyperplasia while in study conducted by Chhabra et al (1992) 3.80% patients had atypical hyperplasia.

In present study, 2% patients had atrophic endometrium, while in study of Chhabra et al (1992) 0.95% patients had atrophic endometrium. 1% had atrophic endometrium in study by Sutherland and Bruce.

In our study, only one percent had chronic endometritis, while in study of Chhabra et al (1992) none had endometritis, while in study of Singh, N. (1988), 4.35% had endometritis. 11% had chronic endometritis in a study by Sutherland & Bruce.

Singh, N. (1988) diagnosed one patient having irregular bleeding due to retained necrotic products of conceptions. Study of Bedi (1987) also diagnosed one case of necrotic products of conception on histopathology. Ambiye (1980) diagnosed syncytiotrophoblast in one case by cytology as well as histology. None of our patients had products of conception as a cause of dysfunctional uterine bleeding.

Correlation of parity and endometrial pattern :

In present study, maximum number of patients despite different parity had normal endometrium i.e. 84%. Our results coincides with results of study by Chhabra et al (1992) which shows 74.27% patients had normal endometrium despite different parity.

Present study shows maximum number of patients had endometrial hyperplasia in parity more than or equal to 3. Similar are the results of Chhabra et al study (1992).

In present study, maximum number of patients had atypical hyperplasia in parity group more than or equal to 3. Similarly, Chhabra et al study (1992) shows that multiparous patients had atypical hyperplasia.

Correlation of Endometrium according to age (Table 10) :

Maximum number of patients in all age groups shows normal endometrium.

Endometrial hyperplasia was more common in 35-45 years of age, while atypical hyperplasia and chronic endometritis was more common after 40 years of age.

Organic pathogenesis encountered in Uteri removed for dysfunctional uterine bleeding :

In present study 60% of patients had no organic pathology while 40 out of 100 patients (40%) diagnosed to

have dysfunctional uterine bleeding had undetected abnormalities. Of these, adenomyosis and fibromyomas were the major contributory factors.

In another retrospective study of 518 hysterectomies carried out for the clinical diagnosis of dysfunctional uterine bleeding by Purandare, S. (1993), 37% of patients diagnosed to have dysfunctional uterine bleeding had undetected abnormalities.

In present study among organic pathologies detected, adenomyosis was found in 50 percent of cases. Our results coincides with the study of Purandare, S.(1993) in which 52.5% cases had adenomyosis. In a study of hysterectomies done for benign pelvic condition conducted by Sholapurkar, M.L. (1983) 10.2% cases had adenomyosis.

In present study, 32.5% patients had leiomyoma as cause of dysfunctional uterine bleeding, while in study conducted by Purandare, S. (1993), 29% had leiomyoma. In study of hysterectomies done for benign pelvic condition by Sholapurkar, M.L. (1983), 9.33% hysterectomies were done for uterine fibroid.

In present study among organic pathology, 7.5% patients had endometrial polyp, 5% had endometrial C.A. and 5% had fibroid & adenomyosis together. In study conducted by Purandare, S. (1993), 5% patients had endometrial polyp, 1.5% had endometrial CA and 6% had fibroid & adenomyosis together.

None of patients in our study had tuberculosis, fibroid & endometrial polyp together, placental polyp or misplaced IUCD as a cause of dysfunctional uterine bleeding. While in study conducted by Purandare, S. (1993), 2% had endometrial tuberculosis, 2% had fibroid & endometrial polyp together, 0.5% had embedded IUCD & 1.5% had placental polyp.

Comparison of Histopathological status of Endometrium in Dysfunctional Uterine Bleeding patients with no organic Pathology.

ENDOMETRIUM

Study	Proliferative (%)	Secretory %	Hyperplastic (%)	Atrophic %
Present study	53.3	33.3	10.0	3.3
Purandare et al	66.3	20.6	7.0	6.1
Actel et al	63.0	7.5	29.5	0.0
Das & Chugh	41.5	26.1	30.6	1.8
Sutherland	45.0	20.9	29.2	4.9

In patients where histopathology corroborated the clinical diagnosis of dysfunctional uterine bleeding, the endometrial patterns observed were similar to those reported in other studies as shown in above table. Proliferative endometrium was most commonly found though secretory, hyperplastic and atrophic endometrium was seen to a variable degree.

Hysterectomy as Treatment :

Mishra and Roy Chowdhari (1971) reported that 30.5% of the abdominal hysterectomies were done for abnormal uterine bleeding. Mishra & Roy Chowdhury (1971) quoted maximum incidence of hysterectomies in age group below 40 years.

In study conducted by Sholapurkar (1983), 24.37 percent of all hysterectomies and 31.5% of abdominal hysterectomies were done for dysfunctional uterine bleeding. 40.7% cases belonged to age group below 35 years. Early marriages, repeated child births at short intervals and poor quality of obstetric care available to the low socio-economic class of patients may be contributing to the above.

Between 1971 & 1980 more than 60,00,000 hysterectomies were performed in the USA. Dysfunctional uterine hemorrhage with non-tumoral uterus and hypertrophic characteristics has been one of the principal indications (Clin-Exp-Obstet-Gynecol, 1992; 19(2) : 125-35).

In the end we concluded that the place of hysterectomy in the treatment of dysfunctional uterine bleeding depends upon age, parity, severity of symptoms and associated lesions.

In older women over 40 years, hysterectomy should be considered in all cases of persistant or recurrent

bleeding, particularly after a repeat curettage. In this age group, uterus is of less importance psychologically and provided there is no contraindication, hysterectomy is the treatment of choice in all cases where bleeding is persistant or severe. Though spontaneous cure may occur with the menopause, the possibility of a malignant or other organic lesion which may have been over-looked or may develop in the future justifies the operation in cases of persistant bleeding (D.A. Davey).

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SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

The present study was conducted in the Department of Gynaecology & Obstetrics and Postgraduate Department of Pathology, Maharani Laxmi Bai Medical College & Hospital, Jhansi.

This study was performed to correlate size of uterus, fertility, endometrial biopsy and histopathological findings in hysterectomy specimen with the clinical diagnosis of dysfunctional uterine bleeding. This is a retrospective study of patients who were admitted in the Department of Obstetrics and Gynaecology to undergo hysterectomy as a definitive treatment for the clinical diagnosis of dysfunctional uterine bleeding.

All the patients were in their perimenopausal and post-menopausal age group. None of the patient had any clinically detectable benign or malignant pelvic pathology. Data was also collected regarding age, parity, type and duration of menstrual irregularity, associated symptoms previous hormonal or operative treatment taken. All patients received treatment for dysfunctional uterine bleeding in form of hormones, dilatation and curettage or both prior to hysterectomy. Failure of these modalities increased the acceptance of hysterectomy.

Following are the results and conclusions drawn from the present study :

1. Various menstrual disorders are most common in age group of 35-45 years i.e. 84% (Table 1).

2. Most of women had normal fertility with three or more children i.e. 86%. None had prolonged marriage child birth interval or long periods of infertility between two child births (Table 2).

3. Most of patients of dysfunctional uterine bleeding had normal size uterus i.e. 63% (Table 8).

4. Number of children may affect the size of uterus in women with abnormal uterine bleeding depending upon pathology involved (Table 8).

5. Different types of menstrual pattern obtained in our study were menorrhagia, polymenorrhoea, polymenorrhagia, metrorrhagia, irregular bleeding and short period of amenorrhoea followed by bleeding per vaginum.

6. Menorrhagia was commonest menstrual pattern (38% cases) found in patients of dysfunctional uterine bleeding in this region.

7. Menstrual pattern was studied in relation to size of uterus and it was found that most of the patients presenting with menorrhagia, polymenorrhoea and

irregular cycles had normal size uterus while most patients presenting with polymenorrhagia, metrorrhagia and short period of amenorrhoea followed by bleeding per vaginum had enlarged uterus size.

8. In present study, menstrual pattern in dysfunctional uterine bleeding was studied in relation to parity of patients and it was found that parity do not affect the type of menstrual pattern in dysfunctional uterine bleeding.

9. In correlating menstrual pattern with age of patients it was found that menorrhagia was found to be the most common presenting complaint in all age groups studied.

10. Endometrial sampling is useful for endometrial assessment prior to commencement for hormonal therapy and hysterectomy.

11. It is a potentially useful screening test for early detection of endometrial cancer in patient at risk.

12. Endometrial curetting is a simple technique which can be performed as an out-patient procedure. It is painless procedure causing minimal discomfort to the patient.

13. On histopathological examination of endometrial curettings normal endometrium was found in 84% of cases. 60% had proliferative endometrium and 24% had secretory endometrium. 10% cases had benign cystic hyperplasia.

3% had atypical hyperplasia, 2% had atrophic endometrium and only 1% had chronic endometritis.

14. Atypical endometrium was more common in patients with 3 or more children i.e. 2%.

15. Endometrial hyperplasia was more common in age group 35-45 years and atypical hyperplasia & chronic endometritis is more common after 40 years of age.

16. Present study shows that 40% of patients diagnosed to have dysfunctional uterine bleeding clinically had undetected abnormalities.

17. 60% of cases in present study were true cases of dysfunctional uterine bleeding.

18. Leiomyoma & adenomyosis were the major contributing factors in the organic pathologies encountered in this region.

19. Proliferative endometrium was most common in patients with no organic pathology.

To conclude the overall views in relation to hysterectomy as definite treatment of dysfunctional uterine bleeding, when conservative efforts have failed, more radical measures must be undertaken. Hysterectomy may become a procedure of necessity. One cannot indefinitely continue repeated curettage and hormone therapy. Hysterectomy is

indicated in patients where hormonal treatment fails or is contraindicated because of metabolic or vascular disease. This is particularly true of the woman over 35 years of age who has not improved under conservative treatment, whose family is complete and who has associated pelvic relaxation.

The future holds the promise of treatment modalities endometrial abalation. Till such time as hysteroscopy, transvaginal ultrasound and endometrial abalation are not available to all patients with abnormal uterine bleeding, hysterectomy will continue to play an important role in the management.

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